

(BPL.doc)

8/11/03

The following comments are submitted regarding ET Docket No. 03-104.

It is important that any Broadband over Power Line (BPL) standards assure that the BPL signals do not cause harmful interference.

It has been noted that the power line grid is the world's most extensive infrastructure. As such, any leakage from BPL transmissions have the potential for unprecedented harmful interference.

Worldwide tests of BPL technologies have shown that these signals cause severe harmful interference spread in both space and frequency. The interference occurs even to systems in no manner hooked to the power grid, such as mobile transceivers driving down public streets. Several examples of audio and video clips showing this interference are available at the website of the American Radio Relay League (arrl.org/news/stories/2003/08/08/2/?nc=1).

The interference was noted to be severe in the "High Frequency" (HF) portion of the radio spectrum. The HF portion of the spectrum is a particularly precious natural resource because of its natural ability to propagate signals far beyond the horizon via the ionosphere. This occurs in less than one billionth of the radio frequency spectrum. The HF portion of the spectrum is unique in its ability to allow for direct long distance communication with relatively inexpensive equipment and small antennas. These are characteristics which have allowed it to play important roles in countless previous disaster situations.

Ironically, backup communications during disasters has been put forward as an advantage of BPL. Historically, however, my experience has always been that the power line service is among the most fragile in times of disaster. Even so, the silencing of HF interference in a disaster area would be of little benefit because the interference would still likely be present in the areas that disaster victims would be trying to contact.

Inferences on the magnitude of the interference potential of BPL based on existing carrier current services are very misleading. Interference from these narrow band transmissions is easily avoided by tuning to one of the thousands of other radio frequency channels available. The "broadband" nature of BPL, however, means that it wipes out all channels at once. This eliminates the method that has been used to avoid interference in existing carrier current applications.

Tests reveal that the BPL interference is impulsive in nature. This type of interference can cause a disproportionate severity in harmful interference because the peak interference can be many times higher than the average interfering power. Please take care to regulate the peak interference power to below average background noise levels.

While the prospect of a cheap alternative internet access method is appealing, let's make sure that it doesn't come at the hidden expense of a priceless irreplaceable natural resource, namely the HF radio spectrum.

Thank you.

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